

CLAIMS

We claim:

1. A method for preparing a photoresist layer for e-beam
5 inspection comprising:

out-gassing said photoresist layer whereby an outgas from
said photoresist layer during said e-beam inspection is
substantially prevented.

10 2. The method for of claim 1 wherein:

said step of out-gassing said photoresist layer further
comprising a step of implanting ions into said photoresist
15 layer to activate an out-gassing from said photoresist layer.

3. A method for preparing a photoresist layer for e-beam
inspection comprising:

20 increasing a conductivity of said photoresist layer whereby
electric charging of said photoresist layer during said e-
beam inspection is substantially prevented.

25 4. The method for of claim 3 wherein:

said step of increasing a conductivity of said photoresist
layer further comprising a step of implanting conductive
ions into said photoresist layer to increase a conductivity of
said photoresist layer.

30 5. The method for of claim 3 wherein:

said step of increasing a conductivity of said photoresist
layer further comprising a step of implanting carbon ions
35 into said photoresist layer.

6. The method for of claim 3 wherein:

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said step of increasing a conductivity of said photoresist layer further comprising a step of implanting indium ions into said photoresist layer.

7. The method for of claim 3 wherein:

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said step of increasing a conductivity of said photoresist layer further comprising a step of implanting Sb ions into said photoresist layer.

8. The method for of claim 3 wherein:

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said step of increasing a conductivity of said photoresist layer further comprising a step of implanting silicon ions into said photoresist layer.

9. The method for of claim 3 wherein:

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said step of increasing a conductivity of said photoresist layer further comprising a step of implanting metallic ions into said photoresist layer.

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10. The method for of claim 3 wherein:

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said step of increasing a conductivity of said photoresist layer further comprising a step of implanting a conductive ions at an implanting energy approximately 1000 ev into said photoresist layer.

11. The method for of claim 3 wherein:

5 said step of increasing a conductivity of said photoresist layer further comprising a step of implanting a conductive ions having an ion dosage in a approximate range 10^{16} /cm² to 10^{18} /cm² into said photoresist layer.

12. The method for of claim 3 wherein:

10 said step of increasing a conductivity of said photoresist layer further comprising a step of plasma immersing ion implant a conductive ions into said photoresist layer.

13. The method for of claim 3 further comprising:

15 out-gassing said photoresist layer whereby an outgas from said photoresist layer during said e-beam inspection is substantially prevented.

14. The method for of claim 13 wherein:

20 said step of out-gassing said photoresist layer further comprising a step of implanting ions into said photoresist layer to activate an out-gassing from said photoresist layer.

25 15. A photoresist layer for integrated circuit manufacture processed for e-beam inspection comprising:

30 an out-gas content less than 0.5 percents thus substantially prevent out-gassing from said photoresist layer during said e-beam inspection.

16. A photoresist layer for integrated circuit manufacture
processed for e-beam inspection comprising:

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an electric resistivity less than 2000 ohm/cm² thus
substantially prevent an electric charging of said
photoresist layer during said e-beam inspection.

17. A photoresist layer for integrated circuit manufacture
comprising:

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implanted conductive ions for increasing a conductivity of
said photoresist layer.

18. The photoresist layer for of claim 17 wherein:

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said implanted conductive ions further comprising
implanted carbon ions.

19. The photoresist layer for of claim 17 wherein:

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said implanted conductive ions further comprising
implanted indium ions.

20. The photoresist layer for of claim 17 wherein:

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said implanted conductive ions further comprising
implanted Sb ions.

21. The photoresist layer for of claim 17 wherein:

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said implanted conductive ions further comprising
implanted silicon ions.

22. The photoresist layer for of claim 17 wherein:

said implanted conductive ions further comprising
implanted metallic ions.